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ABSTRACT

The relationship between self concpet and creativity was examined in 44 mentally retarded adolescents. Self concept was measured by the Piers-Harris Children's Self Concept Scale. Physical health and quality of home life were rated. Creativity measures included the Alternate Uses Test and Torrance's Thinking Creatively with Pictures, Form B. Results indicated a self concept score slightly below the normative mean and a significant correlation with perceived health scores. Self concept and intelligence were not significantly correlated, nor, contrary to the hypothesis, were self concept and creativity. In fact, the Torrance nonverbal measures were negatively, but not significantly, correlated with self concept. Significant negative correlations were found between creativity and perceived physical health and home life. Results were taken to support the contention that a single measure of creativity is insufficient. (CL)

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Creativity and Self Concept of Mentally Retarded Adolescents

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Behavioral research with mentally retarded individuals has generally tended to be somewhat serendipitous and emanating from disparate theoretical views (Robinson & Robinson, 1976). Investigations of the self concepts of mentally retarded children and adolescents were not seriously begun until the mid-1960's but have unfortunately not shed much light on this important topic. However, although the evidence is conflicting, the data indicate that retarded children actually see themselves in a more negative light than do normal children (Harrison, Singer and Folman, Budoff, 1972; Piers & Harris, 1964).

The self concepts of the mentally retarded have been noted to be related to various conditions. Brookover, Thomas, & Peterson (1963), and Gorlow, Butler, & Guthrie (1963) have found positive relationships among self concept, school grades, academic achievement, and intelligence. A positive relationship between self concept and enhanced learning ability was also observed by Hardy (1967) Landsman (1962), Fink (1962), and others. It is apparent that self concept is related to a variety of learning indices among retarded children and is in agreement with similar relationships noted among nonretarded children. (Bledsoe, 1967; Gillman, 1969; Robbins, 1967; Wattenburg & Clifford, 1964; Williams & Cole, 1968).

The concept of creative behavior has been even more neglected than the concept of self concept as it related to the mentally retarded. Early studies by Torrance (1960) and Getzels & Jackson (1962) have demonstrated a positive relationship between intelligence and creativity. Pollack, Pollack, & Tuffli (1973) and Uno, Gargiulo, Sears, Mauter, & Rowe (1977) extended the range of intelligence to include the trainable mentally retarded (with a lower IQ limit of 30) and again noted a positive relationship between IQ and creativity. Other studies have shown that creativity in the retarded may be only partially explained by intellectual ability (Martinson, 1973; Smith, 1967).

The purpose of this study was to examine the relationships between self concept and several meausres of creative behavior among mentally retarded adolescents educationally assessed as educable mentally retarded. In addition, the relationship among self concept scores, perceived home life, perceived health, and intelligence was examined.

Method

Subjects

Subjects were selected from Adjusted Curriculum Programs for the mentally handicapped in four Toledo (Ohio) high schools. From an original group of 57 students, 44 students completed the battery of three tests. The final sample of 44 students had equal numbers of males and females with a mean chronological age of 16.1 years (SD = 1.19).

Inventories

Self concept was assessed by means of the Piers-Harris Children's Self Concept Scale (Piers & Harris, 1969). Each item of the Piers-Harris was read slowly and carefully explained by the examiner to the students. Measures of perceived physical health and quality of home life were also obtained at this time using a 5 point rating scale.

Verbal and nonverbal meausres of creative behavior were obtained with the Alternate Uses Test (Guilford, 1960) and Torrance's (1966) Thinking Creatively With Pictures, Form B. The Alternate Uses Test consisted of nine items (i.e., shoe, button, key, chair, watch, sfaety pin, wooden pencil, automobile tire, and eyeglasses) in which the subject's task was to provide as many as six alternate uses for each item. The subject was given 4 minutes to complete each block of 3 items for a total of 12 minutes.

The Picture Construcation component of the Torrance Test was kept intact whereas slight modifications of the Picture Completion and Circles components were made in accordance with the Pollack, et al (1972) and Uno, et al (1977) studies. The number of incomplete figures on the Completion activity was reduced from 10 to 6 (two figures consisted of straight lines and angles, two figures were based on curved lines, and two were combinations of lines and curves). The Circles activity was modified from 36 circles of 26 mm diameter to 20 circles of 39 mm diameter. Maximum allowable time spent on the activities were 10, 6, and 5 minutes, respectively. Various combinations of the three activities of the Torrance test results in four measures of creativity; fluency, flexibility, originality, and elaboration.

Procedure

All testing was conducted in the students' home room within their respective high schools. Each test was administered on a separate day and the necessary instructions and supervisions during group testing were provided by the examiners and the students' teacher. Test instructions were modified to meet the different needs of the students to ensure their understanding of their tasks.

Results and Discussion

The obtained self concept score of 48.59 is slightly below the reported normative mean ($\overline{X}$ = 51.84) and was found to be significantly correlated with

perceived health scores (See Table 1 and 2). This positive correlation is

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insert Tables 1 and 2 about here

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consistent with the research of Leonardson (1977) in which regular high school and college students were used as subjects. In addition, research by Collingwood & Willett (1971), and Sharp & Reilly (1975) is suggestive of a positive relationship between self esteem and actual physical fitness.

Home life appears to be a significant factor related to self concept scores of EMR's rating of their home life was a moderate .525. This finding supports the work of Coppersmith (1967) and Roseberg (1965) who also found the family situation to be an important factor in self concept scores.

Self concept and intelligence were not found to be significantly correlated, although the correlations were in the predicted direction. A possible reason for this nonsignificance is the restriction in the range of intelligence scores ($\overline{X}$ = 67.23, SD = 7.54). Other researchers using subjects who were more normally distributed in intelligence, have found different results.

Contrary to the hypothesized relationships, there were no significant positive correlations between self concept scores and the creativity measures. In addition, the Torrance nonverbal measures were negatively, but not significantly, correlated with self concept. A possible explanation for these negative relationships is that retarded students are traditionally instructed in convergent thinking strategies in which a limited number of specific answers are given for specific situations. EMR's learn to make specific stimulus-response associations.

The obtained significant negative correlations between creativity and perceived physical health and home life were not anticipated. Based on published

anecdotal and biographic evidence, no significant relationships were hypothesized since inventors and other highly creative individuals did not consistently report either enriched or improverished family environments or perceived health and home life necessitates the development of divergent thinking in order to respond to or cope with personal and home life difficulties.

The relationship between nonverbal creativity and intelligence demonstrated by Pollack, et al (1973) and Uno, et al (1977) was partially supported. There were no significant correlations between intelligence and the Torrance measures. The restricted lower IQ range of the sample may have accounted for the lack of significant IQ/creativity correlations. Verbal creativity, on the other hand, resulted in the hypothesized relationship between IQ and creativity. Students with high IQ scores were more creative than students with lower IQ scores.

All relationships among the scores of the four Torrance sub-tests were found to be statistically significant. These results, however, are not consistent with previously reported results by Uno, et al (1977) in which the only significant correlations were between fluency and flexibility and between fluency and elaboration. The present correlation matrix is similar to the matrix for trainable mentally retarded adolescents in the Uno, et al study in which the only nonsignificant correlation was between originality and elaboration. The differences between this and the previous study may be to either higher IQ scores ($\overline{X}$ = 74.1) or smaller and older sample of subjects in the Uno, et al study (i.e., N = 20 EMRs $\overline{X}$ = chronological age = 17.0 years). A study is currently in progress to examine the effects of chronological and mental age of EMR's on their creativity.

These results stongly support the position that a single measure of creativity is insufficient (Clark & Mirels, 1970). Intelligence is only one of a number of variables which influence the development and expression of creativity (Martinson, 1973; Rouse, 1963; Smith, 1967; Wallach, 1967). Educational programs must recognize the need to include creativity components in their curricula regardless of the type and severity of handicapping conditions.

Table 1

Means and Standard Deviations

(N = 44)

Variable	Mean	Standard Deviation
Self Concept	48.59	14.29
Health	6.68	2.01
Home Life	5.91	2.11
Alternate Uses Test	3.34	3.40
Torrance: fluency	10.14	6.10
Torrance: flexibility	7.32	3.26
Torrance: originality	7.89	6.17
Torrance: elaboration	33.75	22.36

Table 2

Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9
1. Self-concept	1.0								
2. Health	*.345	1.0							
3. Home Life	*.525	.234	1.0						
4. IQ	.204	.105	.026	1.0					
5. AUT	.126	.06	.186	*.345	1.0				
6. Fluency	-.268	*-.486	*-.312	.111	.212	1.0			
7. Flexibility	-.133	*-.410	-.117	.208	.237	*.697	1.0		
8. Originality	-.277	-.089	*.372	.277	*.301	*.654	*.493	1.0	
9. Elaboration	-.135	*-.313	-.119	.219	*.529	*.527	*.485	*.335	1.0

N = 44 *p < .05

FOOTNOTES

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